



Population Reports

Helping Women Use the Pill



Highlights

Common problems using OCs	3
When is missing pills riskiest?	5
What to do about missed pills.....	6
Quitting without switching.....	8
Men can help.....	12
Key messages for OC users	13
Managing common side effects.....	16
Removing unnecessary barriers.....	17
When can a woman start the pill? ..	18
Unresolved issues	23

Contents

Editors' Summary	1
Using Oral Contraceptives	3
Continuation and Switching.....	7
How Mass Media Can Help	10
Pill Counseling.....	12
Keeping Guidelines Up to Date	17
Improving Access.....	20
Bibliography	25

Published by the Population Information Program, Center for Communication Programs, The Johns Hopkins Bloomberg School of Public Health, 111 Market Place, Suite 310, Baltimore, Maryland 21202, USA.

Volume XXVIII, Number 2
Summer 2000

Around the world over 100 million women rely on oral contraceptives (OCs). They benefit from the effectiveness, safety, and convenience of the pill. Still, many women do not use the pill as successfully as possible. Programs can help women use OCs effectively.

When taken properly, the pill is a highly effective contraceptive. Oral contraceptives are unique among family planning methods, however: Their full effectiveness requires the user's daily action. In part because some women have trouble taking the pill correctly, pregnancy rates are usually much higher than if the pill were used perfectly.

For combined OCs the perfect-use pregnancy rate is estimated at only 0.1 per 100 women in the first 12 months of use. In actual use pregnancy rates range from 1.7 to 10.5 pregnancies per 100 women in the first 12 months in 21 surveyed countries.

Better pill use would make a big difference. Based on worldwide levels of pill use in 2000, for example, over 2 million women become pregnant unintentionally each year because they do not take the pill effectively. Also, women would be healthier, and medical costs would be less, since complications of pregnancy, childbirth, and unsafe abortion are among the leading causes of women's ill health and death in developing countries.

Encouraging more effective OC use requires understanding problems with pill-taking. OC users make a variety of mistakes. These include missing pills, taking "rests" from pill use, starting the next pill pack too late, and taking pills out of sequence. Research suggests that most pregnancies during pill use result

from increasing the number of days between pill packets that hormonal pills are not taken. Errors sometimes occur because women are not told how to use the pill, or they receive incorrect advice. Some users do not understand or remember instructions.

Some pill users who become pregnant report vomiting or diarrhea and/or use of antibiotics around the time of conception. It is not clear what role these events play in pill failure.

What Can Be Done?

The better women understand the pill, the better they can use it effectively and continue using it. Women need to know how the pill works, how to take it correctly, what to do if they miss pills, how to deal with common side effects, and what symptoms indicate the need to see a doctor or nurse.

Using mass media. Radio, television, and other mass media can inform potential users, users, and their partners about the pill and other methods. The mass media often start people thinking about family planning and contraceptives. They also can remind continuing users about effective pill use and help to counter false rumors about the pill.

Counseling. Counseling—face-to-face dialogue between client and provider—improves OC use. Women who receive good counseling are more likely to continue using the pill and to use it effectively. In particular, women need to know about the common side effects before they start the pill. Counseling is especially helpful both when a client is deciding about the pill and if she experiences side effects in the first months of use. Providers counsel better when trained and enabled to use both knowledge of family planning and communication skills.

New guidelines, new attitudes. Family planning programs help clients use OCs more successfully when they update guidelines and procedures to reflect new scientific understanding about OCs. Unnecessary legal, medical, or other institutional barriers sometimes impede pill use. Such barriers include baseless eligibility restrictions, unnecessary screening procedures, and legal, programmatic, and provider bias against certain family planning methods or groups of clients. By adopting guidelines, procedures, and attitudes that respond, first and foremost, to clients' needs and wishes, family planning programs can help pill users find more satisfaction and more value in their contraceptive method.

Improving access. Making it easier to obtain OCs helps women use them correctly without interruption. Ensuring regular supplies, making pills affordable, and offering them conveniently all are important. Without good access, women may discontinue, take pills inconsistently, or switch to less effective methods. Convenient clinics, community-based distribution, social marketing, links with other health services, and good supply chains can make it easier for women to use the pill.

This report was prepared by Vera M. Zlidar. Bryant Robey, Editor. Stephen M. Goldstein, Managing Editor. Design by Linda D. Sadler. Production by John R. Fiege, Merridy Gottlieb, Peter Hammerer, and Deborah Maenner.

The assistance of the following reviewers is appreciated: Marcia Angle, Luis Bahamondes, Debora Bossemeyer, John Guillebaud, Ricky Lu, Emma Ottolenghi, Herbert Peterson, Tsigue Pleah, Linda Potter, Malcolm Potts, Joedo Prihartono, Roberto Rivera, Michael Rosenberg, Lois A. Schaefer, Elizabeth Schoenecker, James Shelton, J. Joseph Speidel, and James Trussell.

Suggested citation: Zlidar, V.M. *Helping Women Use the Pill*. WHO/RHR/02.06. *Population Reports*, Series A, No. 10. Baltimore, Johns Hopkins University School of Public Health, Population Information Program, Summer 2000.

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Population Reports (USPS 063-150) is published four times a year (winter, spring, summer, fall) at 111 Market Place, Suite 310, Baltimore, Maryland 21202, USA, by the Population Information Program of the Johns Hopkins Bloomberg School of Public Health. Periodicals postage paid at Baltimore, Maryland, and other locations. Postmaster to send address changes to *Population Reports*, Population Information Program, Johns Hopkins Bloomberg School of Public Health, 111 Market Place, Suite 310, Baltimore, Maryland 21202, USA.

Population Reports is designed to provide an accurate and authoritative overview of developments in the population field.

Published with support from the United States Agency for International Development, Global, GH/POP/CMT, under the terms of Grant No. HRN-

A-00-97-00009-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the US Agency for International Development or the Johns Hopkins University.



Using Oral Contraceptives

Oral contraceptives (OCs) are an effective family planning method that over 100 million women around the world are using. Many more have used OCs at some time in their lives. (See **Population Reports, Oral Contraceptives: An Update**, Series A, No. 9, Spring 2000.)

Particularly because so many couples rely on the pill, ensuring its effective use is important to fulfilling people's reproductive goals. OCs are unique among contraceptives in that their full effectiveness requires the user's daily action. No other method requires the user to act on a daily basis, even when no sexual contact takes place.

When taken consistently and correctly, OCs are one of the most effective methods. In actual use, however, OCs are not as effective at preventing pregnancy as they could be. If family planning programs and health care providers paid greater attention to helping women use the pill, the actual effectiveness of OCs could improve substantially.

Strategies to improve pill use include giving women complete and easily understood information, providing individual counseling, and offering frequent follow-up messages to remind women about effective pill use. Mass media campaigns that inform people about family planning can foster social approval of it and educate people about available methods. Making pills accessible and removing any unnecessary restrictions to their safe use also can help women use the pill more effectively.

OC Pregnancy Rates

The gap between perfect-use pregnancy rates and typical-use pregnancy rates among OC users suggests that many women do not use OCs effectively. Perfect-use pregnancy rates reflect only the inherent technical failure of a method if it is used perfectly—both consistently and correctly—and if it does not stop using it for any reason. In contrast, typical-use pregnancy rates reflect how often pregnancy occurs as the method is commonly used in a population (223).

For combined OCs, which contain both progestin and estrogen, the perfect-use pregnancy rate is estimated at just one pregnancy per 1,000 women, or 0.1 per 100, in the first 12 months of use. For the progestin-only pill, the perfect-use

**Unless noted otherwise, the term "OCs" as used in this report indicates combined oral contraceptives. Most studies of typical use, however, do not specify whether rates are for progestin-only pills, combined OCs, or both. Since most pill users take combined OCs, it can be assumed that these data largely reflect rates for combined pills.*

pregnancy rate is estimated at five pregnancies per 1000 women, or 0.5 per 100, in the first 12 months of use (223).

Typical-use pregnancy rates for OCs* are generally much higher. National surveys in 21 countries found that typical-use pregnancy rates among OC users ranged from 1.7 pregnancies per 100 women in Bangladesh to 10.5 per 100 women in Bolivia in the first 12 months of use (see Figure 1). In the US the pregnancy rate among OC users in 1995 was 6.9 per 100 women over 12 months (225).

Longer-term users of OCs tend to be more effective users, possibly both because of experience and because less successful users have become pregnant, discontinued use, or switched to a different method. In five of seven countries with data for 24 months of pill use, pregnancy rates were lower in the second year than in the first year (4, 225). Over two years, rates ranged from 4.5 pregnancies per 100 OC users in Thailand to 16.5 pregnancies per 100 OC users in Egypt (4).

While some typical one-year pregnancy rates may seem modest, even low levels of contraceptive failure each year can mean that over the long term many women will have unintended pregnancies. If the pregnancy rate for the pill is 6% per year among a group of pill users, for example, nearly half would experience unintended pregnancy within 10 years (184). Over 18% of users would become pregnant after 10 years at a 2% pregnancy rate per year, while an annual pregnancy rate of 10% would result in 65% of users experiencing unintended pregnancy over 10 years.

Based on estimates of worldwide pill use for 2000, in one year at least 2 million women become pregnant unintentionally because they do not take the pill effectively (see box, p. 8). If even just 1 more woman in every 10 used OCs effectively, there would be 200,000 fewer unintended pregnancies.

As typically used, the pill is less effective in preventing pregnancy

than such other reversible methods as intrauterine devices (IUDs) and injectables. Yet, if used perfectly, the pill would be among the most effective methods—slightly more effective than the copper T IUD, progestin-only injectable contraceptives, and female sterilization. In fact, only *Norplant* implants have an expected perfect-use failure rate lower than that of combined OCs (223).

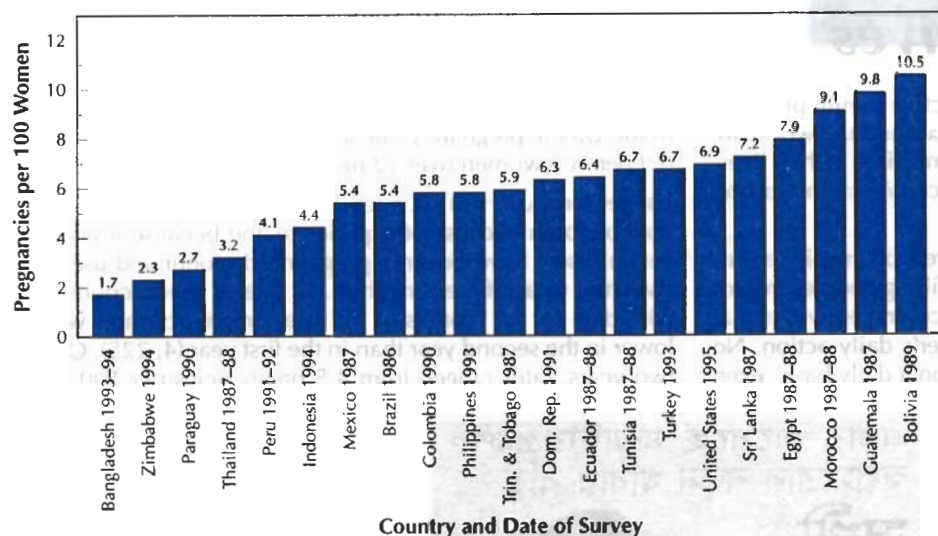
Common Problems with Using the Pill

Many individual and social factors can interfere with women's correct and consistent use of OCs: fear of health risks, cost, side effects, lack of confidence in the effectiveness of the method, and social disapproval of OCs or of family planning itself (166). Lack of knowledge about how



In Bangladesh and around the world, millions of women rely on OCs. Among methods, only OCs requires a user's daily action to be fully effective.

Figure 1. Typical-Use Pregnancy Rates Among First-Year Pill Users, 21 Surveyed Countries, 1986–1995



Sources: Ali, 1995 (4); Enünlù, 1996 (50); Fatholah, 1996 (58); Melián, 1994 (133); Mitra, 1996 (139); Moreno, 1991 (141); Ordoñez Gómez, 1994 (149); Padilla, 1994 (152); Perez, 1996 (153); Polanco, 1994 (159); Sambisa, 1996 (186); Trussell, 1999 (225).

Population Reports

to use the pill and how to manage lapses in pill-taking also contributes to ineffective pill use.

Pill-taking mistakes are not unique to OC users. Research on medication-taking habits for a number of illnesses—from epilepsy to asthma—indicates that 10% to 20% of patients have trouble taking correct doses, whether they underuse, overuse, or use their medications inconsistently (146).

Common problems with OC use include missing pills, taking “rests” from pill use, running out of pills, incorrectly switching from one pill packet to the next and so extending the amount of time without taking hormonal tablets, and taking pills out of sequence. Family planning programs can address many of these problems.

Missing pills. Many women may miss a few pills in a packet and not take corrective action. Sometimes women simply forget to take a pill now and then. Some women may miss a few pills because their supply runs out or because they leave their pills at home when they travel. Women may skip pills because they are experiencing side effects, such as nausea or spotting, and think—mistakenly—that skipping a few pills will reduce these side effects.

Missing a pill now and then seldom leads to pregnancy (see box, p. 5). Frequently missing a number of pills, however, increases a woman’s chances of becoming pregnant. Furthermore, missing pills in each pack without becoming pregnant can be self-reinforcing. Some women who miss pills may begin to think that their irregular pill-taking pattern is good enough to avoid pregnancy and thus continue taking the pill haphazardly (129, 165).

Eventually, some women will lose this gamble. A study in Western Europe, for example, found that women who usually missed one or more pills from each packet were nearly three times more likely to become pregnant than women who reported not missing any pills (182).

Although missing pills increases a woman’s risk of unintended pregnancy, women who do not use the pill perfectly

still have a lower overall risk of pregnancy than women who use no contraception at all. In a US study only 13% of pill users took their pills correctly over a period of 6 to 12 months. Nevertheless, the pill users overall experienced only one-third the rate of pregnancy that occurred among women who had obtained pills but did not use them at all (148).

Women can benefit from instructions on how to make up missed pills. Women who miss one pill should take the missed pill as soon as they remember. Women missing two or more pills can protect themselves from pregnancy by following new missed pill guidelines (see box, p. 6).

Few studies have looked at what corrective action women take when they miss pills. A 1997 study of 103 US women’s pill-use habits over three cycles found that 52% did not miss more than one pill.

Among women missing more than one pill, some 18% avoided intercourse for a week thereafter, while 3% used a back-up method for seven days after missing pills. Either abstinence or a back-up method would be effective if kept up until a woman had taken hormonal pills for seven days straight. Some 27%, however, did not take any protective action after missing multiple pills (147).

Taking “rests” from pill use. Sometimes women stop taking their pills temporarily. Some health care providers incorrectly advise pill users that they need to give their bodies a “rest period” from the pill. For example, a 1993 study in Jamaica found that two-thirds of private providers recommended a rest from pill use in order to “expel” chemicals from the body (80).

Many women also believe that they need to give their bodies a rest from the pill. In an Egyptian study 13% of self-identified pill users who had no pills on hand when interviewed said that they were resting from the pill hormones. Nearly 20% of women with pill packets at home at the time of interview reported not taking a pill in the last eight or more days because they were resting from the method (129). In Australia some 27% of OC users interviewed reported taking a rest from pill use at some time (237).

Resting from the pill is a common practice around the world, and yet there is no scientific justification for it. There is no accumulation of hormones in the body when taking OCs (55, 220). Nor are there any known health or fertility benefits to taking periodic rests. In contrast, the risks can be considerable. In one study 25% of women who took such rests from pill use became pregnant unintentionally (75).

Making transition errors. Some pill users do not begin a new pill packet at the right time (94, 123, 164, 212). Making this kind of mistake—a transition error—is common. In Bangladesh, for example, although most women correctly answered questions about how to take pills and how to make up for missed pills, only 37% of rural users and 24% of urban users knew when to begin their next 28-day packet (123).

The 28-day pill packets allow users to take a pill every day, rather than having to count seven pill-free days before starting a new 21-day packet. It would seem that taking a pill every day would be easier to remember than counting days between cycles. Nevertheless, a study in Egypt found that users of 21- and 28-day packets made transition errors equally often (94).

Some women incorrectly wait for a withdrawal bleed, which they perceive as menstruation, before starting the next pill packet. In Bangladesh, for example, 47% of rural women and 59% of urban women surveyed said that they waited for evidence of menstruation between pill packets (123). Women with misperceptions about the pill—in particular, the incorrect idea that OCs can cause infertility (1, 150)—may wait for what they think is a menstrual period as evidence that the pill has not affected their ability to have

children (100). This misperception can extend the interval between pill packets. The correct practice is to start the next cycle of pills on schedule—no later than seven days after the last hormonal tablet—regardless of when withdrawal bleeding does or does not occur.

Taking pills out of sequence. Some women do not take their pills in the correct order. Rather than follow the arrows on the packet that indicate which pill to take next, some women take pills in random order or follow the rows in a different direction. A study in Egypt found that 24% of women who could show the interviewer their pill packets had taken pills out of sequence, while in Indonesia 5% had made this mistake (94). With 28-pill packets, taking pills out of sequence can result in taking placebo pills at the wrong time in the pill cycle, increasing the risk of pregnancy.

Missed Pills and Pregnancy: When Are Women Most at Risk?

Recent studies have come closer to understanding when the risk of pregnancy is greatest for women who miss pills: Extending the hormone-free interval most increases a woman's risk of breakthrough ovulation (122, 140, 233). This can happen if a woman misses pills in the third week immediately before the seven-day hormone-free period or if she starts the next pack late. Women's normal pre-ovulatory hormonal functions resume during the seven days of not taking hormonal pills. Follicles begin to develop on the ovary—the precursor to ovulation.

Researchers have removed different numbers of pills at different places in the pill pack in an effort to identify how many days without hormonal pills it takes for women to ovulate. Some packets had two, three, or four hormonal pills removed from the third week. Others had hormonal pills removed at the start of the packet: days 1–4, 3–6, or 6–9.

These studies involved various low-dose formulations, both multiphasic and monophasic, including those with one of the lowest available doses of ethinyl estradiol, 20 µg. While results varied—from no ovulation to ovulation in 10% of women in one study—in every study women developed ovarian follicles (48, 112, 121, 122, 127, 140, 203, 219).

A review of the findings from these studies, coupled with observations about pill-taking and pill failure, suggest several conclusions:

- Some women are biologically more likely to become pregnant than others. These women quickly achieve normal hormonal levels during the hormone-free interval, making missing only a very few pills on either side of the hormone-free interval extremely risky (118). In fact, variation in follicular development is so great among women that some researchers feel that individual body chemistry can be a greater risk factor for pregnancy than missing a specific number of pills (112, 118, 219).
- While women do resume normal pre-ovulatory hormonal function during the seven-day hormone-free interval, this does not compromise the effectiveness of the pill.

Hormonal levels have not been shown to rise to those needed for ovulation, cervical mucus remains thickened, and the lining of the uterus remains thin throughout these seven hormone-free days (112, 118, 140, 203).

- For most women, taking seven hormonal pills in a row is enough to provide maximum contraceptive effectiveness, even immediately after the seven-day hormone-free period (118). Studies looking at follicular development among women missing pills found that the follicles regressed in the majority of women after seven days of taking hormonal pills (112, 118, 140, 203). Some women, however, may need more than seven pills to make the follicles on the ovary regress and thus establish full contraceptive effectiveness (118).

The evidence from these missed-pill studies has been used to revise guidelines for making up missed pills. Because women are at greatest risk of pregnancy when they go more than seven consecutive days without taking hormonal pills, these guidelines focus on avoiding an extended hormone-free interval (see box, p. 6).

Shortening the Hormone-Free Interval

Shortening the hormone-free interval—that is, reducing the number of days a woman does not take hormonal pills to less than seven—may help reduce the risk of breakthrough ovulation if women miss pills immediately before or after the hormone-free interval (216, 252). Such a pill regimen, *Minesse*®, was approved in Europe in March 2000 and contains 24 hormonal pills and 4 nonhormonal pills (252). This is an ultra-low-dose pill, containing only 15 µg of ethinyl estradiol and 60 µg of gestodene.

When compared with a 21-day hormonal pill formulation with 20 µg of ethinyl estradiol and 150 µg of desogestrel, the 24-day hormonal pill pack was just as effective in preventing pregnancy (252). Women using the 24-day hormonal pack had shorter and lighter withdrawal bleeds and more breakthrough bleeding than women using the 21-day hormonal packets. Fewer women discontinued due to breast tenderness or nausea with the 24-day formulation (252).

New Guidance for Making Up Missed Pills

The simple basic instruction for effective pill use is, of course: Take one pill each day. Beyond that, thinking in terms of seven days can help a woman avoid pill-taking errors and correct mistakes: **For full protection, do not go more than seven days without taking hormonal pills. If you miss two or more pills, keep taking hormonal pills for at least seven days straight to stay protected.** A woman can apply this guidance to avoid the riskiest pill-taking error—extending the gap between cycles—and to make up for missed pills.

This guidance is based on observations that usually up to seven straight days of taking pills are needed to suppress a woman's hormonal cycle at the beginning of a pill pack (112, 118, 140, 203). It also recognizes that women are not at risk of pregnancy for the seven days they are not taking hormonal pills at the end of the pack even though their bodies are producing the hormones that start the process of ovulation (112, 118, 140, 219).

Over the years a variety of rules have been proposed to help women make up missed pills, but no consensus developed. In October 2001, the World Health Organization gathered a scientific working group to make selected practice recommendations for contraceptive use. Based on a review of scientific evidence, the group developed guidance for making up missed pills.

The following principals underlie the guidance:

- It is important to take an active pill as soon as possible when active pills are missed;
- If pills are missed, the risk of pregnancy depends on how many pills were missed and when the pills were missed;
- If pills are missed in the first week of the pill pack (including starting a pack late) or if five or more pills are missed, a woman should abstain from intercourse or use a back-up method for the next seven days (260).

Missing One Active Pill

If a woman misses only one pill (days 1–21), she should take one as soon as she remembers having missed one. This may mean taking two pills on the same day. She can continue taking the remaining pills as usual, one per day (see diagram, A).

In the special cases below, a woman begins correcting the error by resuming pill-taking as she would after missing just one pill (see diagram, A). She **ALSO** follows one of these special rules:

Starting a New Pill Pack Two or More Days Late

Starting a new pill pack late is the most serious mistake a pill user can make: Going more than seven days with no hormonal pills may allow ovulation to occur. If a woman starts a pill pack two or more days late, she should take a pill as soon as she remembers having missed one and continue to take them, one each day. Also

using a back-up method or abstinence for seven days will protect her from pregnancy until the pills are fully effective. Emergency contraception may also be appropriate (see diagram, B).

Missing Two to Four Consecutive Active Pills

Days 1–7. She should take a pill as soon as she remembers and continue to take the rest of her pills as usual, one per day. She should also avoid sex or use a back-up method until she has taken pills for seven days straight (see diagram, B). Emergency contraception may be appropriate.

Days 8–14. She should take a pill as soon as she remembers and then one each day as needed. Back-up methods or abstinence is not needed.

Days 15–21. She should take one pill as soon as she remembers. She should continue to take one pill each day, as usual, until she finishes all of the hormonal pills in the pack. She then should start

a new pack the very next day, without the usual seven-day wait. A women using 28-day pill packs should skip the last seven pills because these pills contain no hormones. She should start a new pack the next day after taking the last hormonal pill (see diagram, B).

Missing Five or More Active Pills

If a woman misses five or more active pills at any time (days 1–21), she should follow the rule for missing two to four pills in days 15–21, above. Emergency contraception may also be appropriate.

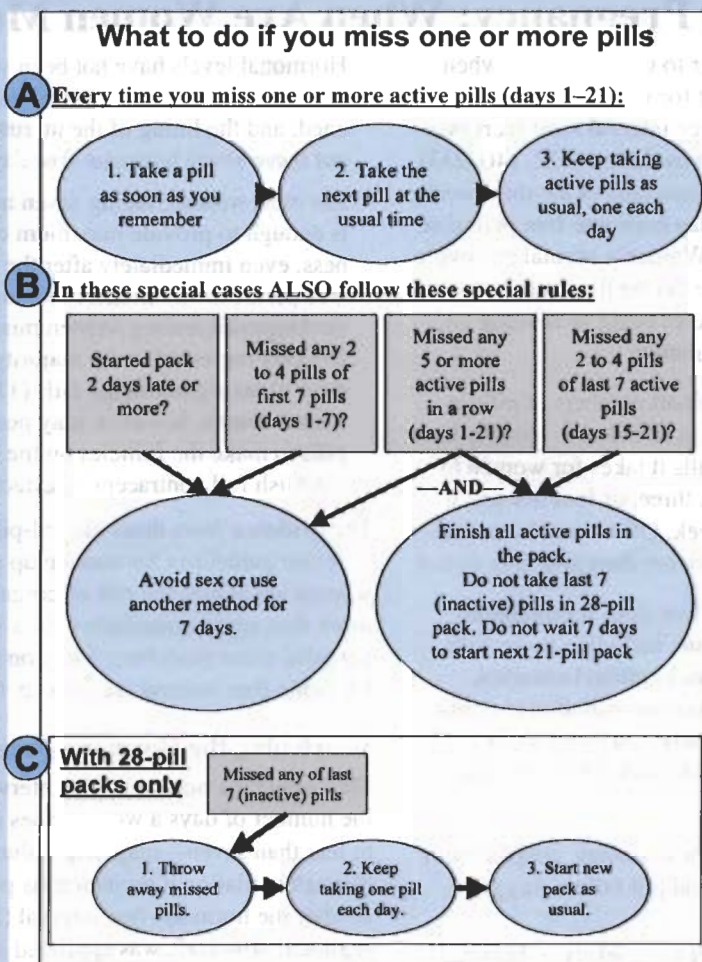
Missing Inactive Pills (28-day pill packs only)

A woman missing any of the last seven, inactive pills in a 28-day pill pack can throw the missed pills away. She can continue taking the remaining pills on schedule, being sure not to go more than seven days between taking hormonal pills (see diagram, C).

Providers Play a Key Role

Providers play a key role in helping women successfully avoid pregnancy when they miss pills. Instructions on making up missed pills are usually the most difficult instructions for providers and pill users to remember. Instructions must be detailed enough to prevent unintended pregnancy but simple enough to remember and follow.

In order for pill users to understand the principle behind the missed pill rules, providers must explain to women how pills work, and that for seven days every month they are not taking active pills. This is especially important for 28-day users to remember. Good counseling can help. Telling women that the pill puts their ovaries to sleep and that missing pills can wake their ovaries up is a good way of explaining it in understandable terms.



Who Uses Pills Incorrectly?

Any woman, regardless of her education, literacy, or socioeconomic status, can misunderstand or forget pill instructions. The mix of factors that influence how women take the pill varies considerably within and among countries (86, 94).

Level of education, household income, and other social factors can strongly predict effective pill use in one country but not in another (33, 94, 123, 139). In Egypt, for example, a study observed that inability to read was a good predictor of improper pill use. In Botswana and Zimbabwe, however, the same study could not identify any set of indicators that consistently identified women who use the pill incorrectly (94).

Some studies have found that younger women—adolescents, in particular—are less likely than older users to take the pill correctly (89, 94, 163). Other studies, however, have found no consistent association between age and proper OC use. Age often acts as a surrogate for other factors that influence pill use, such as education, motivation, side effects, and the client's perception of the quality of the provider-client interaction (178, 182).

Motivation to avoid pregnancy is important to effective pill use. Women who are sure that they do not want any more children typically are more effective pill users than women who do not currently desire pregnancy but who want more children in the future. In the Philippines, for example, older women, women with many children, and women using contraception to limit rather than space births had the lowest rates of pregnancy among all pill users (153).

Consequences of Pill Failure

Pill failures can pose adverse consequences for women's health and for societies and economies. Unplanned pregnancies and unwanted childbearing can impose heavy economic burdens on women and their families and foreclose opportunities (132). Complications associated with pregnancy, childbirth, and unsafe abortion are among the leading causes of death and disability among women of reproductive age in developing countries (144, 211). Pregnancy-related injuries include infertility, impaired mobility, severe anemia and chronic weakness, pelvic pain, uterine rupture, and fistula (53, 229).

For many women throughout the world, effectively using family planning can save not only their own lives but also their children's. The one million or more children who are left motherless each year due to maternal mortality are 3 to 10 times more likely to die within two years than children who live with both parents (229).

Some women who become pregnant while taking the pill have abortions. In

England 17% of abortion-seekers were using the pill when they became pregnant (173). In Australia a survey of over 2,000 women who had abortions in 1992 found that 14% were using the pill when they conceived (235). Where abortion is unsafe, its consequences include nearly 80,000 maternal deaths annually and hundreds of thousands of disabilities. In fact, in some countries complications of unsafe abortion causes more maternal deaths than any other single factor (243). More effective pill use can avert much morbidity and mortality among women of reproductive age.

Continuation and Switching

Women stop using the pill for various reasons. Some want to become pregnant. Others no longer need contraception. Still others may shift to another method that better meets their changing family planning needs. Many women, however, stop using the pill but do not switch to another method at once even though they remain sexually active and do not want to become pregnant. Some of these women remain unprotected for months, and a great many of them become pregnant (see box, p. 8).

If the percentage of women who stopped pill use without switching to another method while still in need of contraception was reduced by one percentage point, 620,000 unintended pregnancies could be avoided each year.

Continuation

Continuation rates measure the number of contraceptive users, per 100 initial users, who are still using the same method a given length of time after they started, usually in 12 month increments. In general, continuation rates for pills—and for injectables and condoms—are lower than for IUDs and implants. A user can easily stop using pills, injectables, or condoms on her own, but she usually must seek out a health care provider to have an IUD or implants removed.

Oral contraceptive continuation rates differ greatly among countries and programs. In 8 of 10 countries with available survey data, about two-thirds or fewer pill users continued OC use for 12 months or more, and half or fewer continued to use the pill for at least two years (see Figure 3). By comparison, in 7 of 9 countries with comparable data, two-thirds or more of IUD users continued using the IUD after two years (4, 58, 139, 153, 225).

Family planning programs often can help more women achieve their reproductive intentions if they focus on serv-

When taking your first pill:

- Press the start/stop button for 3 seconds
- Card beeps and is activated;
- When your next pill is due, the card will remind you with beeping sounds;
- Take the next pill and stop the sound by pressing the start/stop button.



Organon, a manufacturer of oral contraceptives, has produced a card that helps a woman remember to take a pill each day. The woman activates the card when she takes the first pill in a pack. Then the card beeps at the same time each day for three months.

Most Pill Users' Pregnancies Occur When They Quit but Do Not Switch

Based on an estimate for the US by Michael Rosenberg and colleagues (181), an estimated 10 million of the world's 106 million OC users will become pregnant in a one-year period (see Figure 2, below). Pregnancy during pill use, however—whether due to incorrect or inconsistent use or to technical failure—accounts for only about one such pregnancy in every five.

The other 80% of pregnancies in 12 months after starting OC use will occur among the one-third of women who discontinue pill use. In particular, 68% of unintended pregnancies will occur among the 12% who discontinue pill use *and* do not switch to another method. (Another 11% of pill users will not need another method once they stop using the pill; they are no longer fecund, want to become pregnant, are not having intercourse, or have already become pregnant. About 5% will adopt a less effective family planning method after discontinuing the

pill, and about 7% will switch to a more effective method.)

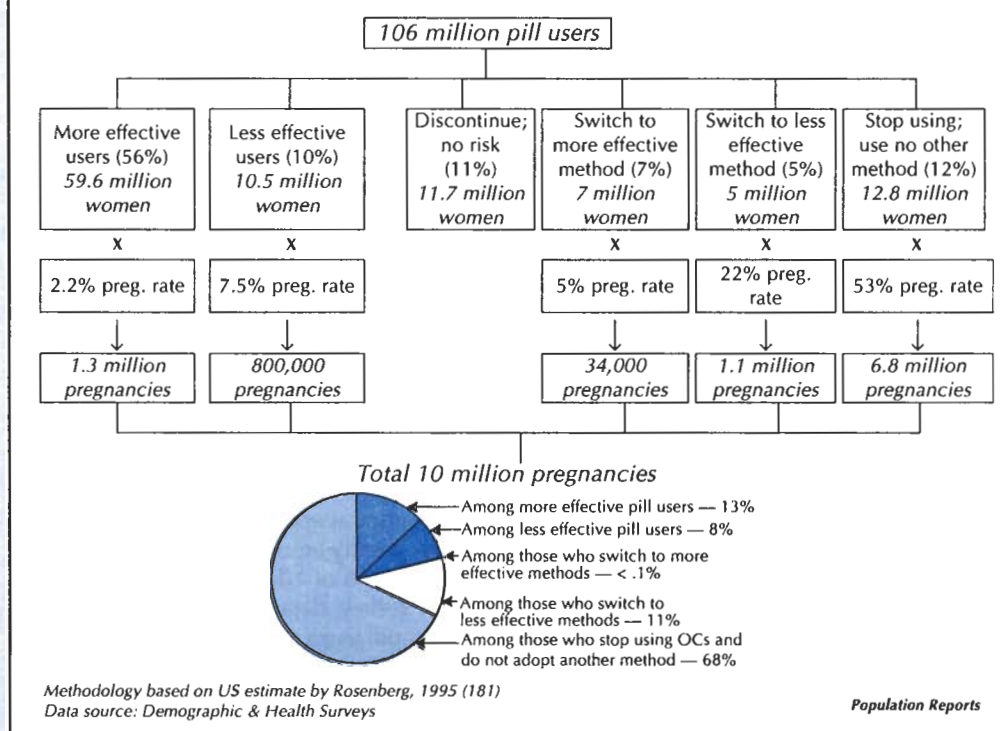
Among women who discontinue OCs and do not adopt another method within 12 months despite continuing need, over half—nearly 7 million women—will become pregnant. This estimate is based on a study of Ghanaian pill users, which found that 53% of pill discontinuers became pregnant within several months (227).

Thus most pill users who become pregnant actually become pregnant when they stop OCs without switching to another method. Family planning programs should focus on helping women continue their methods or switch to new methods without a gap in contraceptive protection. In particular, providers can advise OCs users about common side effects and their management and emphasize that clients are welcome back to seek help or another method at any time.

Short-term versus long-term use. Some women use OCs for only a short time—an average of four to six months (62, 177). Short-term users are most likely to discontinue because of side effects such as nausea, breakthrough bleeding, spotting, weight gain, and breast tenderness (124, 139, 180, 182, 192, 193, 227).

Although a substantial group of OC users quit within a few months, many other women are long-term OC users. Data that include short-term as well as long-term users demonstrate that many women rely on the pill for the long term. For example, in the mid-1990s median duration of pill use was 18 months in the Philippines (153) and 27 months in Indonesia (58). In Zimbabwe, where most family planning users rely on the pill, the median length of OC use was 28 months (186). A 1995 Canadian survey found that the average length of pill use was seven years, and that, among pill users over age 35, nearly 70% had used the pill for more than 10 years (17).

Figure 2. Estimated Number of Pregnancies Among Pill Users Worldwide in 12 Months



ing women already using a method rather than only on attracting new users (102). As contraceptive use becomes more widespread, continuing users increasingly outnumber potential new users. For example, in the US, only an estimated one-fifth of nearly 19 million pill users in one year had started the pill that year (181).

ing pill use in Ecuador, Egypt, and Tunisia after one and two years of use (4, 139, 153, 186) (see Table 1).

Inconsistent pill use. How consistently women take the pill can affect the incidence of side effects. Missing pills or taking pills late can increase the occurrence of nausea, vomiting, spotting, and breakthrough bleeding (37, 124, 163, 179).

Side Effects

Side effects are often the single greatest reason that women stop using the pill after only a short time. In Bangladesh, for example, of the 45% of pill users who discontinued within a year, half discontinued because of side effects. Far fewer discontinuers—only 16%—stopped to become pregnant. Reasons such as husband's disapproval, availability, cost, desire for a more effective method, convenience, and health concerns about the pill accounted for 13% of pill discontinuation (139). Similarly, side effects were the reason that over half of the women gave for discontinu-

In fact, using the pill inconsistently can create a self-defeating sequence of events. For example, a woman misses a pill, causing spotting or breakthrough bleeding. She may take two pills the next day to make up for the missed pill, but this brings on nausea and perhaps vomiting. Because of these problems, she skips more pills—mistakenly thinking the break will alleviate her side effects—and so experiences more side effects. This chain of events can soon lead her to stop pill use altogether.

Many women discontinue the pill because they were not informed when they started that it can cause side effects (180, 235). When side effects are unexpected, they can be frightening. Telling pill users ahead of time about the possible common side effects and how inconsistent use can aggravate side effects are among the most important messages about pill use that providers can convey (see p. 13).

Breakthrough bleeding and spotting. For many women pill use makes periods more regular and reduces blood loss. Breakthrough bleeding and spotting, however, occur in some users and affect pill use, particularly when women do not understand why they are bleeding. Some women mistakenly think that irregular bleeding indicates a serious health problem, such as cancer (88, 166), and so they may stop taking the pill.

Covert pill users—that is, women using the pill without their partners' knowledge—fear that breakthrough bleeding will reveal their contraceptive use to their partners and families. Changes in menstrual patterns, irregular bleeding, and amenorrhea are a primary concern and often the main reason for discontinuation among covert pill users (22). Islamic women, for example, cannot pray while menstruating. Not attending prayers for weeks at a time could alert husbands and members of the extended family to covert contraceptive use (22).

In cultures where women's activities are restricted during menstruation, breakthrough bleeding amounts to far more than dealing with an unpleasant or frightening side effect. Women's participation in food preparation, religious rituals, community events, school attendance—in general, their mobility—is severely constrained while they are menstruating (13, 134). For example, some women in India cannot touch their children during menstruation, while others are forced to sleep away from their families (77). Prolonged or frequent bleeding episodes that limit women's everyday activities can contribute considerably to discontinuation of OC use.

Table 1. Oral Contraceptive Discontinuation Rates, 1987–1994

% of All Pill Users Discontinuing and % Discontinuing Due to Side Effects, As Calculated from Findings of National Surveys

Country & Year	Ref. No.	After One Year		After Two Years	
		All Reasons	Side Effects	All Reasons	Side Effects
Bangladesh 1993–94	139	45	23	61	—
Ecuador 1987–88	4	37	19*	55	30*
Egypt 1987–88	4	37	19*	59	31*
Indonesia 1994	58	33	6	47	—
Morocco 1987–88	4	35	14*	54	23*
Philippines 1993	153	39	13	56	—
Thailand 1987–88	4	36	6*	50	9*
Tunisia 1987–88	4	41	23*	59	36*
Zimbabwe 1994	186	15	2	43	—

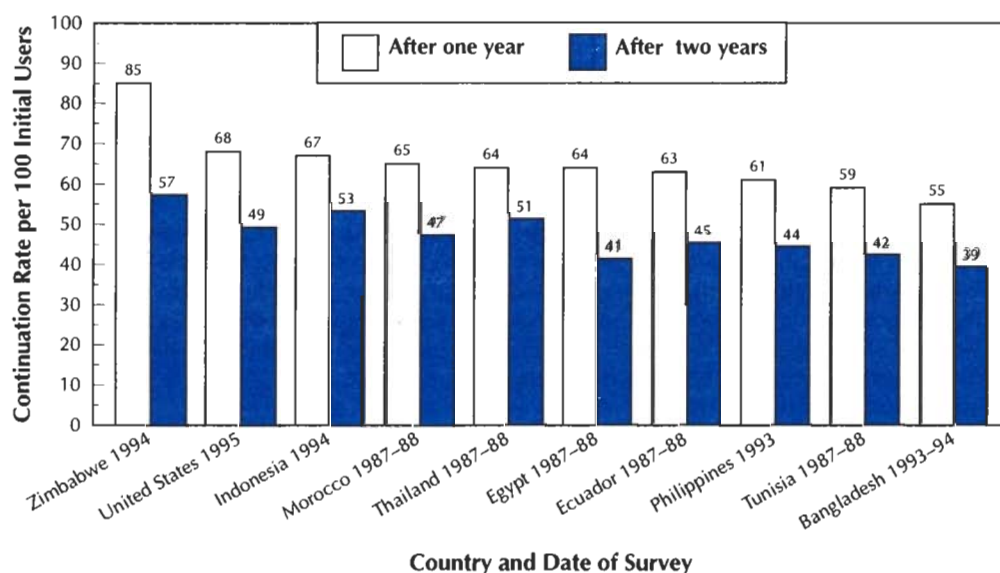
* Discontinuing due to health concerns including side effects.

Population Reports

The Contraceptive Coverage Gap

Some women who want to avoid pregnancy face a gap in contraceptive coverage because they stop using the pill but do not adopt another family planning method (36, 168, 180). For example, in India during a year-long study, one-fourth of women who reported discontinuing OCs for reasons other than wanting a child did not adopt another method (65). In Bangladesh, among women who stopped using the pill within an 18-month period for any reason other than desiring pregnancy, half did not adopt another method (123). Among women in the Philippines who discontinued pill use and still needed contraception, 68% did not adopt a new method

Figure 3. One- and Two-Year Oral Contraceptive Continuation Rates, Selected Countries, 1987–1995



Sources: Ali, 1995 (4); Fathonah, 1996 (58); Mitra, 1996 (139); Perez, 1996 (153); Sambisa, 1996 (186); Trussell, 1999 (225)

Population Reports



In Haiti a billboard advertises Pilplan, a social marketing brand of OCs. Many people obtain information about OCs from the mass media. The more women know about the pill, the better they are able to use it. Accurate knowledge is the key to making good reproductive health choices.

within one year (153). In Zimbabwe nearly three-fourths of such discontinuers were left without protection against pregnancy for over a year (186). In the US a 1995 survey found that 20% of pill discontinuers had not adopted another contraceptive method one year after they had stopped taking the pill (225).

This gap in contraceptive coverage leads to many pregnancies, since women quickly regain their fertility after discontinuing pill use. In Ghana, for example, 53% of women who stopped coming to a health facility for OCs became pregnant within four months. Of the women who waited more than four months to return, 75% became pregnant. Nearly 40% reported these pregnancies as unintended (227).

Switching Methods

While switching from one family planning method to another is every person's right, it should be exercised with full knowledge, because women who switch from the pill to another family planning method can increase their risk of unintended pregnancy (36, 168, 180). An analysis of use patterns among a group of US pill users over one year, extrapolated to all US pill users, attributed 194,000 unintended pregnancies to about 1.7 million women switching from OCs to a less effective method, including condoms, diaphragms, spermicide, other barrier methods, withdrawal, and periodic abstinence (181).

Among women in the Philippines who stopped using the pill, one-fourth switched to a traditional family planning method, yet none of these women wanted another pregnancy (153). Similarly, in Bangladesh 12% of pill users switching methods or discontinuing use changed to a traditional method (139).

Women who switch from OCs to long-term or permanent methods, of course, experience far fewer unintended pregnancies than women who switch to less effective methods.

For example, of nearly 880,000 pill users in the US estimated to switch from the pill to an IUD or sterilization, about 11,000 would experience unintended pregnancy (181).

Pill users often switch to the IUD, implants, or sterilization once they have had all the children they want. In Finland, for example, the pill is the most common method used by women who have no children. The IUD is used almost exclusively by women who have had at least one child, while sterilization becomes more common among contraceptive users as they have more children (117). In Sri Lanka more than twice as many pill users over 30 years old switched from the pill to sterilization than did women under age 30 (109).

Many women who stop using the pill choose the pill again later. In Ghana, among women who had discontinued pill use and later returned to the same health facility to use family planning again, half chose the pill again (227). In Peru some 30% of women who stopped using the pill of their own accord started using it again within a year (119). A study in the US found that, one month after stopping pill use, 65% of women began using contraception again. Of these, over one-fifth were again using the pill. One year after discontinuing use, 80% had resumed contraception, and again one-fifth were taking the pill (225).

How Mass Media Can Help

The more women know about the pill, the better they are able to use it. In a study of British university students, for example, women with good general knowledge about OCs were less likely to forget a pill for up to 12 hours than women who had less knowledge about OCs (231). In the Netherlands women who received detailed information about the pill used OCs more effectively at first and had more positive opinions of its medical benefits than other women (40).

Conversely, receiving less information and counseling about the pill results in poorer pill use. In a European study of over 6,500 current and past OC users, those who said they did not receive enough information about the pill nor enough help from their providers were one and one-half times more likely to miss one or more pills per cycle than women who felt they received adequate information and counseling (182).

Accurate knowledge is the key to making good decisions about one's reproductive health. Studies show that many women are able to make decisions as well as their providers

do, as long as they are given and understand the necessary information (29, 250).

While counseling is valuable, a single counseling session with a family planning provider usually cannot cover all of the information that a person needs to make an informed choice among family planning methods. Nor should counselors and other front-line health care providers have to bear all the responsibility for seeing that clients are fully informed.

One way to inform pill users, potential users, and their partners about family planning is through the mass media, including radio, TV, video, and newspapers (157). Mass media bring family planning to people's attention even before they meet a provider and often start the decision-making process that leads people to seek family planning services (158). Because the mass media also reach continuing family planning users, they can provide important reminders about pill use.

In many developing countries the mass media have been a key way to disseminate information about family planning and to improve reproductive health behavior (156). The mass media reach many different groups, influencing family planning use among the married and unmarried, the literate and nonliterate, and men as well as women (238).

People obtain much of their information about the pill from the mass media, even though the information is not necessarily designed to aid contraceptive choice and use. In Nigeria, for example, among 500 female university students surveyed, 40% received information about the pill from newspapers or magazines, 28% from television, and 26% from radio. Some 44% reported getting pill information from their peers, 42% from providers, and 30% from nurses (1). Typically, however, information in the mass media is not detailed enough to help people choose a specific family planning method and use it effectively.

Because the mass media reach large and diverse audiences, family planning programs can use the media to improve the use of OCs and other contraceptive methods. In Nepal, for example, the Ministry of Health has used mass media to educate radio listeners about different contraceptives and their use. The radio drama, *Cut Your Coat According to Your Cloth*, airs four times a week and has been broadcast since 1995. This program gives detailed information on how OCs and other methods work, their advantages and disadvantages, and their proper use (104, 105).

The mass media can reach family planning providers as well as the public. Providers can keep up to date with advances in family planning through mass media distance education courses. In Nepal a weekly distance education course for health workers, *Service Brings Reward*, complements the radio drama for family planning users and has helped to improve the quality of provider-client interaction (104, 106, 214).

Communicating Well

In reaching out to pill users, family planning programs, providers, and the mass media face the challenge of communicating information in ways that are accurate, effective, easy to remember, and easy to act on. In the Nepal drama, for example, messages are woven into an entertaining story line about the lives of characters. In one 15-minute episode on the pill, listeners could learn:

- How pills prevent pregnancy,
- Who are good candidates for pill use,
- Cancer prevention benefits of the pill,
- The need to take the pill every day at the same time,
- How to make up a missed pill,
- Common side effects, and
- Where to get pills.

The program advises interested listeners to see a health worker for further information and counseling (105). The drama has a strong positive effect on listeners' perceptions of and behavior toward family planning (214).

The pill is not the best method for everyone. The mass media need to inform people about the existing range of contraceptive choices. The more family planning options available—and the better the range of choices is known—the better each person can find the method she or he can use with satisfaction. The result will be that every contraceptive method, OCs included, will be used more effectively.



Actors in Nepal prepare to record the radio drama "Cut Your Coat According to Your Cloth." The program, which airs four times a week, gives information about OCs, including advantages, side effects and correct use. Messages about contraception are most effective when they provide accurate information in appealing formats.



Men Can Help

Women can use the pill more effectively with their partners' involvement and support. Studies demonstrate that, when partners participate in the selection and use of OCs, women use OCs longer, manage side effects better, and even use pills more effectively. For example, in a study of 10 clinics in Guatemala, Hong Kong, Jordan, Kenya, Nepal, and Trinidad and Tobago, women used the pill longer when it was their first choice and their partners agreed that they should practice family planning (96).

Similarly, in rural Bangladesh women whose husbands participated in selecting OCs used them longer than women whose husbands were not involved in selecting a family planning method. These women also reported lower rates of discontinuation due to common side effects. Researchers report that husbands helped by urging their wives to obtain more information or counseling from a provider about how to manage side effects. Discussing her side effects with her partner can relieve anxiety. Such discussion also promotes switching to a different method when appropriate (170).

When men help in selecting a contraceptive method, they are more likely to be involved in its correct use. A Chinese study looked at the effect of partner involvement on contraceptive use-effectiveness. The pregnancy rate for users of temporary methods was lower among women who attended contraceptive counseling with their husbands than among women who obtained a method on their own (232).

Of course, men also can influence their spouses to stop using family planning. Some 37% of women in Bangladesh who had stopped using the pill in less than three months reported that their husbands influenced them to stop (3).

Family planning programs can reach men in a variety of ways, especially at places where men gather—for example, at sporting events and community meetings—as well as through mass-media messages (46). Pill use messages in the mass media can speak directly to men and their participation in better reproductive health, including telling them how they can help their partners use the pill effectively. (See **Population Reports, New Perspectives on Men's Participation**, Series J, No. 46, October 1998.)

Repeat to reinforce. Repeating a message reinforces it. In a study in the Netherlands, even new pill users who at first had the best use practices began missing more pills by their third pill cycle. These women said that they referred to their audiotaped pill use instructions far less by the third cycle than at first (40). Another study on consistent pill use found women missed more pills with each subsequent pack over three months (147).

One implication of more pills being missed over time is that women may need repeated messages about effective pill use. Another is that, rather than depend solely on instructions that users must seek out, messages also need to reach people frequently and easily, as on radio and TV.

The mass media can reinforce messages on effective use in a variety of ways to maintain interest. For example, a character in a radio drama can be depicted taking her daily pill in response to a cue that reminds her. At the same time, short spots can remind listeners: "Have you taken your pill today?"

Portraying the pill accurately. How the mass media portray OCs to the public—be it accurately or inaccurately—strongly affects women's perceptions and use of the pill. Negative portrayals in the news have caused widespread concerns over the safety of OCs and have contributed to irregular use and discontinuation (88, 235).

For example, in the UK and other European countries the mass media gave extensive publicity to reports in the mid-1990s about some types of OCs and risks of cardiovascular disease—reports whose validity continues to be debated. The publicity created a pill scare. Many women switched to other OCs or stopped taking pills altogether. One provider of legal abortions in the UK reported that 61% of women seeking abortions said they had quit taking pills in mid-pack as a result of the media coverage (43, 76). In the months following, the number of unintended pregnancies and abortions increased substantially (9, 26, 27, 101, 171, 242).

Involving men. In most of the world men have greater access to the mass media than women do, and so family planning messages in the mass media may reach men even more than women (238, 239). Often men greatly influence their partners' family planning behavior and can help them use the pill more effectively (see box at left).

Counseling About the Pill

Counseling is important in helping women to use the pill effectively. Good counseling, as part of good care, improves OC use and encourages continuation (31, 178). In contrast, poor care discourages clients from continued use or returning to seek health care at all (116). Community-based distributors, staff at health posts, pharmacists—anyone giving women pills and advising on their proper use—as well as community social networks can share information and offer support to pill users (see p. 20).

Personal interaction between client and provider is the key to good counseling. To counsel women effectively, providers themselves need to know a lot about the pill, to have good interpersonal communication skills, and to work in an environment that promotes good-quality interaction and

supports follow-up with clients. When family planning providers have the skills, resources, and support to be good counselors, clients make better informed decisions, use methods more effectively and longer, and make more appropriate changes among methods.

What Is Good Counseling?

Counseling is a partnership for good decision-making: The client knows best what her own family planning needs are, and the provider knows most about family planning, contraceptive methods, and other reproductive health issues (175). Exchange of information is key. The client explains her situation and needs, and the provider tailors responses to suit them (6, 38, 110, 143, 146, 175, 235).

GATHER, a six-step process, can help service providers counsel family planning clients. The letters in the word GATHER stand for Greet-Ask-Tell-Help-Explain-Return. Each step of the GATHER process covers a different element of counseling and helps guide provider-client interaction. Following these steps helps clients to make informed decisions about their family planning options (175). GATHER has been translated into at least 10 languages and adopted by training programs around the world (103). (See **Population Reports**, *GATHER Guide to Counseling*, Series J, No. 48, December 1998.)

Counseling often can help the client both choose and use a method. Most clients already have a method in mind when they meet with a provider. In this case, the provider's responsibility is to make sure that the client's choice is based on accurate understanding of the method and awareness of other options. The provider can help the client consider whether the method she prefers suits her own needs and situation.

Since in some places OCs are better known than other methods—almost synonymous with family planning itself—counselors may need to check especially that clients who ask for OCs are aware of other options. Also, the provider needs to check whether the client has any medical condition that would rule out use of the client's preferred method (see checklist, p. 21).

Once the client confirms her choice, the provider's responsibility is to help her use her method effectively and with satisfaction. If a woman chooses OCs, the provider discusses how to take the pill, what to do if one or more pills are missed, what to do if common side effects occur, when and how to use back-up methods, and what symptoms indicate a need to seek immediate care from a doctor or nurse.

At the first meeting the provider needs to assure that the client's understanding of the pill is accurate (111, 235). It usually is difficult to correct misperceptions about a contraceptive method after the client has started using it (20). Thus the first meeting should convey key messages about effective pill use (see box at right).

Women who receive good counseling are less likely to discontinue using the pill. In Colombia, for example, a study found that women who rated their health promoter "very effective" at communication were more likely than other women to continue using the pill (62). Other research shows that a client's perception of the quality of interaction with a provider is consistently among the most important factors in effective pill use (176).

Key Counseling Messages About the Pill

Pill users need to understand a lot about the pill. Some of the information helps a client choose among methods and need not be remembered to take the pill effectively. Other messages need to be remembered. This list highlights some key take-home messages.

- **The pill works if you take it correctly.**
It is up to you to make pill use as effective as it can be. You must remember to take a pill every day as long as there are pills in the pill packet.
- **Take action if pills are missed.**
It is important to make up missed pills, abstain from intercourse, or use a back-up method of contraception if you do not want to get pregnant. (See box, p. 6.)
- **Vomiting, diarrhea, and certain medications can make the pill less effective.** (See box, p. 23.)
- **Be sure to start a new pill packet on time.**
If you start a new packet late, use a back-up method or abstain from intercourse until you have taken pills for seven days straight.
- **The pill does not prevent sexually transmitted infections (STIs).**
If you are at risk for STIs, use condoms or abstain from intercourse. (You can use condoms and pills at the same time for extra protection against pregnancy.)
- **Most common side effects do not mean something is wrong.**
Continue taking a pill each day. Skipping pills can make side effects worse. It may take a few months to adjust to the pills and for side effects to diminish or go away entirely.
- **You should immediately see a health care provider if you experience:**
 - Constant, severe pain in chest, legs, or abdomen;
 - Severe, recurring head pain, often on one side or pulsating, that can cause nausea and is often made worse by light and noise or moving about;
 - Brief loss of vision, or seeing flashing lights or zigzag lines in front of the eyes (with or without bad headache); or
 - Yellowing of eyes or skin.

Source: Adapted from Guillebaud, 2000 (75)

Addressing Common Side Effects

Counseling pill users about possible side effects can improve OC use. Side effects cause more women to discontinue pill use than any other factor. Pill users who have realistic expectations are more likely to manage common side effects better and thus continue using the pill (38, 88, 180, 235).

For example, in Bukidnon Province, the Philippines, women who were counseled about potential OC side effects and who rated their provider as friendly were less likely to stop using the pill than women who did not receive such counseling. Based on these findings, provider training in the Philippines now emphasizes friendly interaction and explaining common side effects (191, 196).



A health worker in Morocco counsels a woman, describing various family planning methods with the help of a demonstration kit. Tailoring information to the needs of clients and presenting information in different ways, including take-home print materials, encourages effective OC use.

Despite such findings, other studies show that many OC clients know little about the possibility of side effects and how to manage them. Studies in 10 sub-Saharan African countries, for example, found that only 25% to 54% of family planning users were informed about side effects during counseling. Even fewer received information on managing common side effects—from just 1% in Côte d'Ivoire to 42% in Burkina Faso, among the five countries with data (138).

Explanations that women can understand help them continue to use the pill until the side effects subside. A Nepal program puts side effects in a familiar context by comparing them to changes that occur during pregnancy: "Just as a woman's body changes when she is pregnant, so changes can occur when she prevents pregnancy. But these changes are not dangerous" (105).

Training

Training can improve counseling. In training, providers can learn more about both contraceptive methods and how to counsel effectively. What providers know about the pill affects how their clients feel. For example, in Colombia providers who reported having ready access to information on the pill received high ratings from clients in interpersonal communication skills and quality of care (62).

Training can help a wide range of pill providers, including clinic staff, pharmacists, social marketing agents, and community-based health workers. In Gujarat, India, for example, gynecologists, general practitioners, and pediatricians who had special training about the pill improved their counseling skills. Trained providers, when compared with others who had not received the special training, were more likely to show clients how to use the pill and to provide a pill packet at the counseling session. In turn, clients' perception of the quality of care improved. In a study using "mystery clients"—local women who visited clinics posing as clients—satisfac-

tion with counseling averaged 83% for the specially trained doctors compared with 56% for doctors without the training (204).

On-the-job training during working hours often can help providers apply their new skills more effectively than formal off-site training because trainees develop skills within the work environment (215). In Kenya trainers noted that providers with on-the-job training were better counselors than those who had been trained otherwise. This was because the providers encountered a variety of clients on the job, thus honing their counseling skills (68).

Performance Improvement

Performance improvement refers to a process for achieving better results from the performance of organizations and individuals. In family planning the goal is to provide high-quality, sustainable health services (188).

Performance improvement goes beyond training to address the institutional, organizational, and managerial factors that affect health care delivery. The performance improvement approach recognizes that achieving better quality of care, including better counseling, is the responsibility of the entire health care system, not just of providers and trainers themselves. Each part of a health care delivery system has a role to play in improving quality (107, 116).

In particular, assuring providers enough time to counsel their clients would improve the quality of care they can offer. Most providers have so many duties and so many clients that time for counseling is limited. In Bangladesh, for example, rising demand for the pill reduced the amount of time that field workers had to counsel each woman on proper pill use. The result was that, as more women used the pill, fewer women knew correctly when to begin their next pill pack (123). Removing administrative burdens on providers, such as excessive paperwork, can free up time for counseling.

Enabling staff to make improvements in their working environment can increase the quality of care they provide and boost job satisfaction (116). When staff members feel empowered, they often find ways to solve institutional problems rather than to keep working in an unsatisfactory setting (56).

Take-Home Information

Offering print materials to take home can help clients continue to use the pill effectively. These materials can serve as a reference if women forget pill-use instructions or have questions about starting pills, making up missed pills, switching from one pack to another, recognizing symptoms that need medical attention, and other aspects of pill use.

manufacturers often produce package inserts for locally marketed pills, these may be difficult to understand for many women (240). Locally produced and materials can be better because they are closer to the clientele. Such inserts can be as simple as an instruction sheet stapled to the pill packet. In the public studies showing that women often do not take pills on days when they do not have sex, FAMILIA, the country's major nongovernmental planning organization, to develop an information system that emphasizes the need to take the pill even when no sexual activity takes place (87).

provider's instructions through pill-pack inserts helps women use the pill more consistently than women understand these instructions. A study in Eastern Europe found that women who had read all of the information in the inserts were least likely to miss one or more pills per packet. About 17% of women reported missing pills. In contrast, among women who understood little or none of the information, about 33% missed one or more pills per packet (182).

information on pill use in different ways and in how later review also influences how effective the pill. In a study in the Netherlands some women received either an informational brochure or a cassette with an audiotape, while others received only verbal counseling. Women who received the most information missed significantly fewer pills during the first 3 months of pill cycles than women who received only the verbal counseling (40).

compromise OC (see box, p. 23). Information should target specifically women to use a condom or abstain if having any of these conditions. Information should mention that severe vomiting or diarrhea may decrease effectiveness, and the method of contraception may be less effective for 14 days in the event of these illnesses.

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though follow-
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likely to occur (84, 180).

know that they can contact a provider at any time for any questions, and providers need to ensure that all women always feel welcome (85, 175). Providers need to welcome any OC user seeking help or advice—whether they initially received supplies from that provider or not. At follow-up visit providers can reassure women who are experiencing side effects and offer help managing them (85). If a woman does not want to continue OC use, providers can help her choose another method. Providers can assess whether the pill is still medically appropriate for continuing clients.

stop using the pill without consulting their provider (68, 180, 227). Indeed, being able to stop the pill without seeing a provider is an advantage of OCs. Appropriate follow-up counseling can help pill-takers and continuers avoid unintended pregnancies by either continue using pills with satisfaction or switch to a more suitable method.

providers. Like clients, providers also need attention to maintain their knowledge about what, India, for example, studies during the year ending about the pill found that trainees forgot skills they had learned. In response, newsletters and courses were introduced to help maintain knowledge (204). Similarly, in Nepal the weekly for community health workers refreshes knowledge by presenting information on different methods, portraying effective provider-client and offering quizzes about topics presented in (106).



to take home, such as these pamphlets about the pill from Bolivia, Egypt, Ghana, and Pakistan, can help family planning clients in many countries use OCs more effectively.

Managing Common Side Effects of Combined OCs

Explaining side effects is an important part of advising new pill users, since side effects are the leading reason that women discontinue pill use. Women considering the pill or already using it should be aware of the possibility of such common side effects as nausea, breakthrough bleeding, spotting, amenorrhea, changes in menstrual flow, mild headaches, slight weight gain, and breast tenderness or enlargement (85, 235). All pill users should be advised that these common side effects are not signs of danger or serious illness.

Common side effects of pill use typically subside within the first three to six months of use (37, 163, 179). Breakthrough bleeding decreases dramatically over the first four months of pill use (84, 136).

How can providers help women with side effects? First, they can urge all OC users to tell them if side effects occur and assure them that usually something can be done to manage side effects. Often, simply letting women know that they can return to consult the provider at any time helps women use a method longer, despite side effects (93, 126). When a pill user returns for help with side effects, the strategies below can help to reduce them.

Breakthrough bleeding and spotting. Some women experience breakthrough bleeding or spotting when they miss pills or take them at different times during the day. For these women, taking the pill every day and at the same time can help reduce breakthrough bleeding and spotting.

Other women, however, have these side effects even when they take their pills consistently. For women whose breakthrough bleeding occurs early in the pill cycle, changing to a pill with more estrogen, if available, can help reduce bleeding (84, 136). Sometimes switching to another low-dose pill formulation can help.

Women with vomiting and diarrhea sometimes experience breakthrough bleeding and spotting (84, 85). Interactions with specific drugs can cause breakthrough bleeding, too (72). Vomiting, diarrhea, and drug interactions affect how the body absorbs the hormones in the pill. Breakthrough bleeding may indicate that the pill is not being fully absorbed, and thus the pill's contraceptive effect may be compromised. These women should continue taking a pill every day, and for added protection they can use a back-up method or avoid intercourse during the period of vomiting, diarrhea, or drug use and for 7 to 14 days afterward (74).

Nausea. Feeling nauseous usually passes after the first few months of pill use, usually occurs on the first day or so of the pill pack, and is more common among women who are underweight (73). Taking the pill at night or with food can help reduce nausea, as can consistent pill-taking (84, 85).

Weight gain. In most cases, weight change among women using OCs is minimal and not related to pill use: As many women lose weight while taking the pill as gain weight (84). Some women may gain substantially, however.

While some women see weight gain as a benefit, others may not be pleased. Reducing the level of estrogen may help keep women from gaining weight (84).

Amenorrhea. A small number of pill users stop menstruating when using the pill. More often, a woman's bleeding may be so slight or so brief that she may think she is not bleeding at all. Such apparent or actual amenorrhea can upset women who believe that regular menstruation is necessary to remain healthy or have certain folk beliefs about menstruation (90, 195). Others may be worried that lack of menstruation indicates pregnancy.

Asking pill users several questions can help identify what steps can be taken. Is the woman having any bleeding at all? Perhaps she has just a small stain on her underclothes that she has not recognized as bleeding. If this is the case, these women can continue taking their pills every day, with reassurance that not menstruating is not harmful to their health.

Although amenorrhea is not usually a sign that a pill user is pregnant, providers can verify whether or not this is case by asking a woman a few questions. For example, in the last month has she taken a pill every day? If so, it is not likely that she is pregnant. She should continue taking her pills every day as usual. Also, some women using 21-day packs may have no bleeding if they start another pill packet immediately rather than waiting seven days between packs. Women who have done this also are not likely to be pregnant.

For a woman who has missed two or more hormonal pills in a row, a series of questions can assess whether or not she may be pregnant (see checklist, p. 18). A woman must be told if a provider suspects that she may be pregnant. This woman should stop using OCs, and she can use spermicide and condoms until her menstrual period starts or it becomes otherwise clear whether or not she is pregnant. Women who are not pregnant should feel free to start using OCs again if they wish.

A few women experience amenorrhea after they stop using the pill. Sometimes it takes women a few months for their periods to return after using OCs. No medical management is needed. Women with irregular menstrual periods before using the pill may have irregular periods again once they stop using the pill (85). Assuring such women that the pill has not affected their fertility can reduce any anxiety about amenorrhea.

Keeping Guidelines Up to Date

Family planning programs can help OC users by following current scientific guidelines about appropriate OC use. Guidelines cover such matters as who can safely start and continue using OCs, how to use OCs effectively, and who can provide OCs under what circumstances.

The hormonal content of today's OCs has decreased considerably from that of the first pills, and research has answered many questions about OCs and women's health. Many earlier concerns about pill safety, which had led to various limitations on pill use, have now been satisfied (16). Some family planning programs, however, have not updated their policies, procedures, and training to reflect this new information.

Applying up-to-date medical eligibility criteria for OC use, removing unnecessary barriers that restrict access, and overcoming provider bias are particularly important to helping women use the pill.

Medical Eligibility Criteria

Who is medically eligible to use OCs? Who should not use OCs for health reasons? Recent international scientific consensus on medical eligibility criteria and family planning program procedures offers guidance. (See **Population Reports**, *Family Planning Methods: New Guidance*, Series J, No. 44, October 1996.)

Under the auspices of the World Health Organization (WHO), scientific experts met in 1994, 1995, and March 2000 to make recommendations for updating medical eligibility criteria for major family planning methods based on a review of scientific findings. These criteria help increase access to family planning methods among people who are able to use them safely, while at the same time they help health care providers better identify those who should not use a method for medical reasons. The criteria cover both initiation and continuation of methods, and they can be applied both in settings where clinical judgment is available and where it is limited (244, 245).

The WHO guidance has been widely adopted and applied. For example, the checklist for initiation of combined oral contraceptives in community-based programs (see checklist, p. 21) reflects the latest recommendations of the WHO expert group. Community-based workers can use the checklist to assess whether a client can use OCs without seeing another provider, or whether the client needs to be referred to a provider who can exercise more clinical judgment. The checklist questions cover all the major medical reasons that combined OCs should not usually be used.

Removing Unnecessary Barriers

Legal, medical, service delivery, and other barriers can block access to family planning. Some barriers exist for a sound reason—to protect people from possible harm—but others have little medical or scientific basis and thus are unnecessary. Barriers to OC use include not only inappropriate eligibility restrictions but also cumbersome service delivery procedures, restrictive statutes and regulations, and provider

bias (198). By updating service delivery guidelines, adopting new procedures, urging changes in outmoded rules and regulations, and encouraging performance improvement, family planning programs can remove unnecessary barriers to effective OC use.

Eligibility barriers. Some health care programs or providers require women to meet certain requirements for OCs that have no medical basis. Eligibility criteria related to age and parity, for example, have no medical basis but nevertheless are widespread (81, 200, 222). For example, in a 1992 survey in Pakistan 3 of every 10 family planning providers said that a woman had to be at least 25 years old to use the pill, while 4 of every 10 said women over 35 years could not use the pill (160). In fact, age in itself is not relevant to pill safety.

Eligibility criteria and their interpretation need to be broad enough to ensure that women who cannot use the pill safely do not use it but also specific enough that they do not exclude women who can safely use the pill (222). For example, a screening checklist that includes "headache" as a condition that rules out pill use could improperly keep women who have ordinary tension headaches from using the pill (198, 210). Only 1) women who have true migraine headaches with focal neurologic symptoms (aura) and 2) women who have true migraines without aura and are age 35 or older are the focus of concern (245).

Unnecessary eligibility barriers have hampered OCs in particular, perhaps because they were the first hormonal contraceptive method. At first, many researchers and practitioners were cautious about providing the pill, concerned that OC use might be bad for women's health or worsen existing medical conditions. Eligibility criteria established many years ago, when hormone levels in the pill were much higher and less was known about effects of the pill, have persisted today in many places, even though subsequent research and experience have proved these limitations to be unnecessary (16). For example, in the US many providers did not prescribe OCs to any woman who is diabetic (198). Research, however, has found no adverse clinical effects among diabetic OC users who have no circulatory system complications (25, 66, 154).

New WHO Medical Eligibility Guidance

Updated guidance on medical eligibility for contraceptive use becomes available October 2000 from the World Health Organization. Based on a March 2000

expert meeting, the new guidance covers 10 family planning methods and over 50 medical conditions.

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When Can a Woman Start the Pill?

A woman can start the pill at any time that it is reasonably certain that she is not pregnant. She does not have to be menstruating when she starts the pill.

A woman who starts the pill more than seven days since menstrual bleeding began should use a back-up method such as condoms or spermicide or else avoid intercourse for the first seven days of taking the pill. Her usual menstrual pattern may change, but she should continue taking all the pills in the pack, regardless of when she next menstruates.

To make reasonably certain a client is not pregnant, a provider can ask a series of questions (see checklist, right). A pregnancy test is not necessary. There is no need to ask a woman to return when she is menstruating, for the pill or any other method.

If pregnancy cannot be ruled out—in other words, if the woman cannot answer yes to *any* of these questions—she can take pills home with her and start them as soon as her menstrual period begins or any time within the first seven days after menstruation starts.

When is the best day to start? The first day of menstrual bleeding may be easiest to remember, and starting on the first day requires no counting of days. Recent research, however, suggests that starting later reduces breakthrough bleeding and spotting in the first month. This could be an advantage because breakthrough bleeding is a common reason that women quit OC use in the first month (247, 248).

Two studies compared starting on the first day of menstrual bleeding with starting on the fifth day. In the first study 26% of the 50 women starting their pills on the first day of menstruation had breakthrough bleeding compared with 8% of the 50 women starting on the fifth day (248). In a second study 24% of 100 women starting on day 1 and 10% of 100 women starting OCs on day 5 experienced breakthrough bleeding in the first month (247). Because fewer of these women experienced breakthrough bleeding, fewer of the day 5 starters discontinued use during the first pill cycle (247, 248).

Process barriers. Some service delivery practices make it burdensome for clients to obtain OCs or other contraceptives yet lack scientific justification (198, 199, 209). For OCs, process barriers include unnecessary, inappropriate, or unrelated screening tests or procedures, frequent follow-up requirements, improper management of side effects, failure to give clients enough supplies, and requirements for periods of "rest" from pill use (199).

For example, required pelvic exams and laboratory tests for women who choose OCs are a burden to all women seeking OCs and a particular barrier to women who have never before had a pelvic exam or who are afraid of needles (222). In Jamaica a 1993 survey of over 350 private practitioners found that one-quarter performed blood and urine tests on women seeking the pill, even though Jamaican service delivery guidelines make no mention of either test as a prerequisite for pill use (80). In Senegal providers required Pap smears and urine, blood, and sexually transmitted infection

Checklist to Rule Out Pregnancy for Non-Menstruating Family Planning Clients

NO	Please ask the client these questions, and check the correct box:	YES
<input type="checkbox"/>	1. Have you given birth in the last four weeks?	<input type="checkbox"/>
<input type="checkbox"/>	2. Are you less than six months postpartum and fully breastfeeding and free from menstrual bleeding since you had your child?	<input type="checkbox"/>
<input type="checkbox"/>	3. Did your last menstrual period start within the past seven days?	<input type="checkbox"/>
<input type="checkbox"/>	4. Have you had a miscarriage or abortion in the past seven days?	<input type="checkbox"/>
<input type="checkbox"/>	5. Have you abstained from sexual intercourse since your last menses?	<input type="checkbox"/>
<input type="checkbox"/>	6. Have you been using a reliable contraceptive method consistently and correctly?	<input type="checkbox"/>

If the client answered **NO** to **all** of the questions, pregnancy cannot be ruled out. Client should use a barrier method or abstain until menses and then start preferred method.

If the client answered **YES** to **any** one of the questions **and** is free of signs or symptoms of pregnancy, provide her with the desired method.

Source: Adapted from Family Health International (52), based on Technical Guidance Working Group, 1997 (221).

Some instructions for pill use in some developed countries have told women to start on a Sunday. This guidance has become somewhat less common because many pharmacies in these countries are closed on Sunday, making it difficult for women to obtain pills.

tests—all medically unnecessary to safe pill use—before giving clients the pill. In fact, they often did not allow clients to use the pill unless they were in apparently perfect health (81). In Ghana a 1993 Situation Analysis found that 55% of providers required blood hemoglobin tests for prospective OC users, even though such tests are not medically necessary for safe pill use (161).

When these unnecessary tests are required, facilities ill-equipped to do such tests cannot provide pills, thus limiting women's access to OCs. While some tests or procedures, such as a pelvic exam, are good preventive health practices that benefit women's overall reproductive health, they nonetheless are not relevant to safe OC use (70, 224). No condition that a pelvic exam might detect rules out OC use (245).

Menstrual requirement. Probably the most common process barrier is to deny OCs to new clients unless they are menstruating when they see the provider (2, 60, 209). In Jamaica nearly one-half of private practitioners interviewed would send

women home without pills if they were not menstruating. In another Jamaican survey 92% of providers and clinic supervisors said they required menstruation or a negative pregnancy test before they would give women any contraception. In 12 clinics surveyed in Kenya, every provider said that clients are often sent home to await menses. At the same time, over half of the clients visiting 19 Kenyan family planning sites were not menstruating at the time of their clinic visit (209).

If women are not actually sent away because they are not menstruating, they may be forced to choose a non-hormonal method instead of the pill. In Cameroon a study of 10 clinics found that only 33% of clients who were not menstruating were given a hormonal method, while 82% of menstruating women left with a hormonal method. Of 21 service providers, only 2 said that they did not require their clients to be menstruating before they would provide OCs (209).

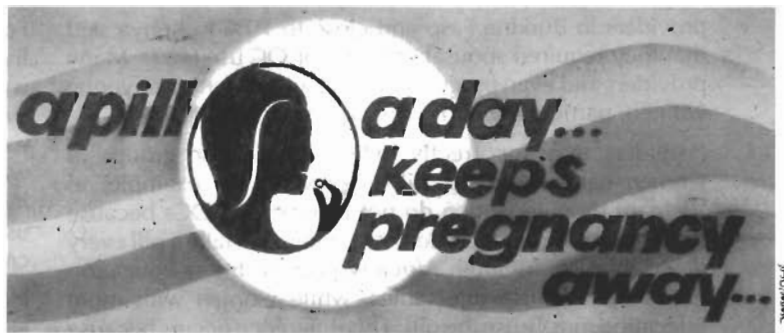
The menstrual requirement is meant to ensure that a woman is not pregnant when she starts OCs, for fear that hormones may harm the fetus. This is also why some programs even require a negative pregnancy test before giving OCs. There is no evidence, however, that combined or progestin-only contraceptives harm a fetus (57, 67, 236). WHO medical eligibility criteria were recently changed to make clear that current pregnancy is not a condition relevant to decisions about providing hormonal contraceptives (245).

Women who want to start using OCs do not have to do so when they are menstruating: Women can begin using the pill at any time during their menstrual cycle if it is reasonably certain that they are not pregnant (84, 85, 220) (see box, p. 18). By asking a series of questions, a provider can be reasonably sure that a woman is not pregnant even though she is not menstruating (208, 221). If a woman's answers to these questions cannot affirm that she is not pregnant, a provider can still give her OCs with instructions to start the first packet when menstruation begins and can also provide condoms or spermicides to use until then.

Legal and regulatory barriers. In some countries only doctors can legally provide OCs, a requirement that can seriously limit access to the pill, particularly where doctors are few. Such restrictions have no sound medical basis. Not only physicians but also many other personnel, including midwives, nurses, community-based health workers, traditional birth attendants, pharmacists, social marketing vendors, and pharmacy clerks, are safely providing OCs around the world. OCs are made available through door-to-door delivery to people's homes, at community centers, and in shops, markets, and grocery stores (183, 199, 222) (see p. 20).

Unnecessary prescription requirements. In some countries, notably the United Kingdom and the US, OCs are available to women only by prescription. Given the proven safety of low-dose OCs, the widespread demand for the pill, and safe use of OCs among women obtaining them without a prescription throughout the world, some experts argue that OCs should become available without prescription everywhere (30, 69, 167, 224).

Making OCs available only by prescription requires women to overcome a series of hurdles to start the pill and to keep using it. First, they must see a physician or other specified health care provider, often endure a pelvic exam, and obtain a prescription for the pill. Then they must go to a pharmacy to have the prescription filled, often for only one pack of pills



Making it easy to obtain and use oral contraceptives can help women take a pill every day and thus avoid the risk of unintended pregnancies.

at a time. Women must continue to return to a pharmacy every month to get another pill pack and return to the doctor every year to have the prescription renewed.

Researchers debate the impact that availability of OCs without prescription might have on access, safety, effectiveness, cost, and preventive reproductive health care (28, 39, 69, 70, 79, 92, 167, 187, 189, 224, 249). Eliminating a visit to the doctor—and consequently, the pelvic exam—could increase access to the pill for women who are intimidated by a pelvic exam, cannot afford a provider visit, or are embarrassed to be seen entering a family planning clinic (69, 213, 224). Not seeing a provider for a prescription, however, could also mean that fewer women receive preventive health care screenings such as yearly Pap smears, breast exams, and screening for reproductive tract infections (79).

Some are concerned that, without a required visit to a doctor to obtain OCs, women will not heed warnings about health conditions that rule out pill use, such as migraines with aura, high blood pressure, and other circulatory system disorders, and, for women age 35 or older, smoking. They argue that lack of provider intervention would compromise pill users' health, since women who should not use the pill may begin using it if a provider is not there to disallow OC use (79, 213, 249). Studies have shown, however, that giving women accurate information about health conditions and risks helps them correctly assess their own health risks and decide for themselves which methods are most appropriate. In fact, often they can do so as well or better than providers (29, 167, 250). Thus, others argue, women are fully capable of making the right decisions about their health risks.

What would offering the pill without a prescription mean for the pill's effectiveness? Some argue that a doctor's or nurse's instructions help women use the pill more effectively (79, 213, 249). Others contend that, given the current gap in pregnancy rates between perfect use and typical use of the pill, clients apparently get too little information from providers as it is. Thus, they reason, using other ways to inform women about how to use the pill may be more effective than continuing current practices (69, 167, 224).

In June 2000 the US Food and Drug Administration discussed with scientists, professional groups, and consumers the possibility of changing oral contraceptives from prescription status to being available without a prescription (30, 230).

Provider Bias

Some providers let their personal views deny clients a full choice of methods (199). Commonly, they impose their own social values on clients. For example, almost one-third of

providers in Burkina Faso and close to 10% in Kenya said that they required spousal consent for OC use (137). Many providers and even programs deny family planning to young women, particularly if they are not married (161).

Providers may incorrectly believe that some groups of women cannot use the pill effectively. For example, in Vietnam providers often do not recommend OCs because they think that clients could not remember to take a pill every day (78). Also, in South Africa women with less education predominantly use injectables, while women with more education mostly use the pill. This difference occurs because providers incorrectly assume that only well-educated women can use the pill consistently and correctly (41, 174). Others may judge clients on the basis of socioeconomic status and treat women of higher status better than those of lower status. In Gujarat, India, for example, a study of OC providers found that they devoted more time to counseling clients of higher social standing (204). Many providers are rude to poor clients, as a study in Bangladesh found (190).

Some providers make judgments based on their perception of a specific woman's situation. For example, if providers think that a woman does not want her husband to know about her contraceptive use, they may not offer the pill. They assume that hiding the pill packet would make consistent use too difficult for her (15).

Providers' and programs' bias *in favor* of OCs may actually contribute to ineffective use and early discontinuation among some users. No method is ideal for all users at all times. When providers have preconceived notions that certain clients "should" use OCs, some of their clients will end up with a method that does not suit them well. These clients are not likely to use the pill correctly or for long. Similarly, programs that offer OCs and just one or two other methods leave many women with little choice but to use OCs, whether or not the method suits them.

Improving Access

Making it easy to obtain OCs helps women use them effectively. Providing good access includes ensuring regular supplies, making pills affordable, and offering them conveniently. If access is difficult, some women discontinue using the pill, while others try to stretch their supply by not taking a pill every day. Still others may switch to less effective methods that are easier to obtain or do not require frequent resupply.

The following can help programs make the pill more affordable, convenient, and accessible:

- Better access to family planning clinics,
- Community-based distribution,
- Social marketing,
- Encouragement for the commercial sector,
- Links between pill provision and other health services.

Whatever the program, good logistics management is crucial to making OCs available continuously and in ample supply.

Better Access to Clinics

As with other contraceptive methods, women who have easy access to the pill are more likely to use it. Several studies have demonstrated that distance from a family planning clinic and the time required to reach it are important to whether women use a family planning method (169, 226).

For example, in Thailand a study found that the closer clients lived to a family planning delivery site, the more likely they were to use contraception. Even living a few more minutes away made a considerable difference. For instance, among women who lived less than three minutes from a clinic, 47% were using the pill compared with just 24% among women living six or more minutes away (49). Similarly, in Egypt, pill use fell markedly as travel time to the source of supply increased (108).

Having a convenient place to obtain more pills also helps ensure continued use. For example, in Ghana a study of women obtaining pills from a clinic found that nearly half of the pill users who did not return to the clinic for more pills nevertheless kept using the pill. They preferred to buy pills from a more convenient location—often chemists' shops near their homes. Women with a convenient source of supply were over three times as likely to continue OCs over a year-long period and twice as likely to continue using them over a two-year period as women without a convenient source of supply (227).

This study suggests that family planning clinics should not assume that clients who do not return for resupply have stopped using the pill. Particularly where pills are accessible in many types of places, many women obtain them from the most convenient source. Thus, even for women who obtain pills initially from clinics, making pills accessible in all kinds of public and commercial locations, including those unrelated to other health care, can help women continue using the pill. Providers can inform clients not only about clinic-based services but also about other sources of pills (151).

Giving more pill packets. Giving a woman more than one pill packet at a time reduces the chances that she will run out of pills. In addition, decreasing the number of times a client has to return to a clinic reduces clinic congestion and waiting time. Giving a woman 13 packets—a full year's supply—is ideal if she has no health condition, such as nonvascular diabetes, that needs to be monitored (84, 85). After the first year of pill use, clients can have another year's supply or even an 18-month supply, if expiration dates on the pill packs permit (84, 95).

If not enough supplies are on hand to give pill users a full year's supply, women should receive at least three or four packets. Plans for follow-up should leave enough time to obtain more pills well before her supply runs out (84, 111, 180, 235). In the early years of the pill, monthly follow-up was sometimes recommended with higher-dose pills to monitor women closely for any serious side effects. Today's lower-dose pills, however, are safer than ever, and no routine follow-up is needed except for resupply (220). Still, providers often limit how many packets they give out because they think, incorrectly, that they need to monitor the health of pill users (228).

Community-Based Distribution

Community-based distribution (CBD) provides some women's only access to OCs. Through CBD, specially trained workers bring OCs and other family planning supplies to communities and homes.

In some countries CBD is an important component of the national family planning program. In Zimbabwe, for example, where rates of OC use are among the highest in the world, the CBD program serves nearly one family planning

client in every four (14). In Bangladesh a study projected that in 1993 family planning use in certain areas would have been only 25%, rather than 40%, if CBD had not been a major component of the country's family planning program (155).

CBD is particularly important where there are no health centers or commercial sources of contraception. In 18 villages in Mali where family planning services were not available, for example, only 1% of women used family planning. Six months after a CBD program began in these villages to offer OCs, spermicides, and condoms, contraceptive prevalence had risen to 31% in villages where all three methods were offered and to 21% where spermicides and condoms but not OCs were offered (45).

Regular visits by CBD agents providing supplies and counseling improve OC continuation. In Bangladesh women who had been visited at home by family welfare assistants within the previous 90 days were two-thirds as likely to have discontinued use than women who had not been visited in the last 90 days. The effect of home visits on continuation was strong—and consistent for women of all social and economic backgrounds—even though social marketing outlets and clinics were accessible in the study area (91).

Screening clients. Screening clients to identify which women can safely use hormonal methods is an important part of CBD programs. By using checklists, CBD agents can accurately identify women who should not use a method without impeding access for women wanting to start OCs (210) (see box at right). CBD agents also can use a checklist to assure that continuing clients have not developed a medical condition that makes pill use inappropriate.

In the Dominican Republic PROFAMILIA's CBD agents use a card to screen potential OC users. By checking off the appropriate color-coded boxes as clients respond to eight yes-or-no questions, the agent decides to:

- (1) Provide the pill;
- (2) Provide the pill but ask the client to see a physician within three months for follow-up; or
- (3) Ask the client to see a physician first (87).

Anyone with specific training, supervision, and performance evaluation can provide OCs safely and effectively (246). Programs must ensure that screening guidelines are up to date with current scientific knowledge and practices (see p. 17). They must also ensure that CBD workers have had adequate training and practice in properly using the screening checklists (210).

Community outreach and participation. Community outreach and participation efforts help provide a supportive social setting that makes it easier for women to use the pill correctly and continuously. One example of such participation is monthly meetings in a community member's home or a community center. At such meetings health care providers and members of the community gather together, creating an opportunity for women to talk about family planning, support one another's family planning use, and receive OCs and other contraceptives. This approach has been successful in Bangladesh, where social support was found to be the strongest motivating factor in women's decisions to use and continue using contraception (113, 156).

POPULATION REPORTS

Checklist for Clients Who Want to Initiate Combined Oral Contraceptives (COCs) in Community-Based Services

NO	Please ask the client all of these questions and check the correct box.	YES
<input type="checkbox"/>	1. Is your period late and do you think you could be pregnant now?	<input type="checkbox"/>
<input type="checkbox"/>	2. Are you currently breastfeeding a baby under 6 months of age?	<input type="checkbox"/>
<input type="checkbox"/>	3. Do you smoke cigarettes and are you over 35 years of age?	<input type="checkbox"/>
<input type="checkbox"/>	4. Do you have repeated severe head pain, often on one side or pulsating, causing nausea and made worse by light, noise, or moving about?	<input type="checkbox"/>
<input type="checkbox"/>	5. Do you have high blood pressure?	<input type="checkbox"/>
<input type="checkbox"/>	6. Have you ever had a stroke, blood clot in your legs or lungs, or a heart attack?	<input type="checkbox"/>
<input type="checkbox"/>	7. Do you have diabetes (sugar in your blood)?	<input type="checkbox"/>
<input type="checkbox"/>	8. Do you have or have you had breast cancer?	<input type="checkbox"/>
<input type="checkbox"/>	9. Do you have a serious liver disease or jaundice (yellow skin or eyes)?	<input type="checkbox"/>
<input type="checkbox"/>	10. Do you regularly take any pills for tuberculosis (TB), fungal infections, or seizures (fits)?	<input type="checkbox"/>

If the client answers NO to all the questions, she can use COCs, but to find out when she can start, continue with question 11.

11. How many days ago did you start your last menstrual period? ____ # of days

Within last 7 days

If the client began her last menstrual period within the past 7 days, she can start COCs now.

Using Effective Method

If she has been using an effective method of contraception (including abstinence), give her COCs, instruct her to begin taking them now, and instruct her that she must use condoms and/or spermicides or abstain for the next 7 days. Give her condoms and/or spermicides.

Not Using Effective Method

If she has not been using an effective method of contraception (including abstinence), give her the COCs but instruct her to start using them on the first day or during the first 7 days of her next menstrual period. Give her condoms and/or spermicides to use in the meantime.

More than 7 days

If the client began her last menstrual period more than 7 days ago, and:

Source: Adapted from Family Health International, 2000 (51)

21



Sara A. Holz

In rural Togo a group of women learns about oral contraception from a community health worker. Programs help to make OCs more affordable, convenient, and accessible by reaching out to communities in a variety of ways. Women often want to discuss the pill with others close to home.

Much of the success of the Indonesian family planning program has also been attributed to community outreach and involvement (217).

Social Marketing

Social marketing improves access to methods such as OCs by making them widely available, well known, and affordable. The social marketing approach is to offer contraceptives for sale in the commercial sector at subsidized prices, while promoting them in the mass media and where they are sold. Social marketing offers the pill in places where users are already likely to be shopping, including markets, kiosks, and grocery stores, thus often eliminating the need for a special trip to obtain pills.

Social marketing is widespread. In 1998, 40 social marketing programs sold nearly 66 million pill packets to women in 34 countries. These numbers are substantially higher than in 1991, when 18 social marketing programs sold about 22 million pill packets in 17 countries (82, 83).

Some social marketing programs now operate without subsidy, sustaining themselves wholly from the sales of contraceptives. In Colombia PROFAMILIA's social marketing is completely self-sustained, as are programs in Jamaica and Malaysia. Indonesia's Blue Circle social marketing is largely self-sustaining (83).

Commercial Sector

Some clients are willing and able to pay full price for family planning services. Growing numbers of users prefer to pay for pills from the private sector, where they can obtain the quality, convenience, and continuity of service that private providers often offer. The commercial sector includes doctors, pharmacies, clinics, and hospitals that are generally

financially independent of government or donor agency subsidies (61).

Promoting expansion of the commercial sector improves access to OCs because it offers users more places to obtain pills. Also, when family planning users switch from the public sector to the commercial sector, public funds can go further to improve access for those who cannot afford full price. Government action can stimulate commercial sector growth. For example, placing the pill on a country's list of essential drugs can reduce import barriers, making OCs less expensive. Such changes can make private sector investment in family planning goods and services more feasible economically and more attractive (61).

Governments can do much to expand the role of the commercial

sector in providing OCs and other contraceptives. Indonesia's government launched the Blue Circle campaign in 1987 both to stimulate demand for private family planning services and to expand the number of private providers. As a result the percentage of family planning users obtaining supplies from the private sector rose from 12% initially to 57% a decade later (23, 24, 99).

Links Between Pill Provision and Other Health Services

Linking family planning services with other health services can make the pill more accessible, especially to women who have not been using any contraceptive method. Clients who may not have sought out a family planning facility can obtain OCs or other methods while receiving other health care. There are several kinds of links:

Postpartum family planning. Maternity care programs can offer the pill and other family planning options. In Honduras, when progestin-only pills and condoms were offered to women after delivery, the percentage choosing family planning after delivery rose from 9% to 30%. Some 61% of women who returned for a 40-day postpartum check-up chose a contraceptive method during the visit (21, 196).

Women not breastfeeding their infants can start combined OCs 21 days after delivery, or they can start progestin-only OCs immediately after delivery. Breastfeeding women can start progestin-only pills at six weeks postpartum, or they can start combined pills either at six months after delivery or when they stop breastfeeding, whichever comes first (85, 245). In either case, women can be given the pills at any convenient time, such as after delivery or at a postpartum check-up, with instructions on when to start using them. Thus these women will not have to make a special trip for supplies when they are ready to start OCs.

Pill Effectiveness: Unresolved Issues

No conclusive evidence exists concerning how much antibiotic use, vomiting, and diarrhea—or antibiotics and gastrointestinal illness together—affect the pill's ability to prevent pregnancy. While imperfect use is the primary reason for pill failure, these other factors are often reported among pill users who become pregnant—usually second to missing pills (47, 207, 253–255, 258, 259). Because some women using OCs report more than one reason for the possible failure of this method, it is difficult to interpret to what extent antibiotic use, vomiting, and diarrhea reduce the pill's effectiveness.

Drug Interactions

Only a few drugs are thought to interfere significantly with OC effectiveness (243, 245). Liver enzyme-inducing drugs have been shown to decrease the pill's effectiveness. These include the antibiotic rifampicin, the antifungal griseofulvin, barbiturates, and anticonvulsants carbamazepine, phenytoin, and primadone (12, 32, 34, 44, 125, 172, 202).

Broad-Spectrum Antibiotics

A number of small pharmacologic studies evaluating the effect of broad-spectrum antibiotics on OC effectiveness have found no ovulation among OC users taking these drugs. While in some studies ethinyl estradiol concentrations among women decreased, the level of estrogen remained sufficient to prevent pregnancy (11, 35, 42, 64, 130, 142, 145). Drugs studied include ampicillin, ciprofloxacin, doxycycline, fluconazole, ofloxacin, temafloxacin, tetracycline, and triazole.

Nevertheless, some pill users who became pregnant report taking antibiotics around the time of conception. For example, 21% of women seeking abortions in New Zealand reported taking antibiotics at this time (207). Based on providers' questioning and assessment, the women in this study are not thought to have missed pills at the time of conception (207). In other studies 4% to as many as 34% of women seeking abortions after OC failure report concurrent antibiotic use, although these studies do not report on other factors that may have played a part in pill failure (47, 255).

One reason that concurrent antibiotic use appears to be so common among women experiencing pill failure may be the widespread use of antibiotics: Some women will become pregnant because they missed pills, and, by chance, be using antibiotics at the same time (74).

Other women, however, are affected physiologically by antibiotic use. Some pill users' bodies absorb less ethinyl estradiol than others. Such women rely on gut flora to consume the ethinyl estradiol and recirculate it through the small intestine. Broad-spectrum antibiotics, however, remove these flora, leaving no mechanism to redistribute the ethinyl estradiol (10, 201). Some researchers con-

clude that only these women experience pill failure as a result of using antibiotics (10, 201, 234). Unfortunately, there is no way to identify these women in advance (201).

Pill users should *not* stop taking antibiotics before finishing the full course prescribed to them, even if they are afraid it will make the pill less effective. A growing number of disease organisms are becoming resistant to widely used antibiotics because people are not finishing their full course of antibiotics (257).

Vomiting and Diarrhea

In seven studies of pill users who became pregnant, 19% to 39% reported vomiting, diarrhea, or both in the cycle in which they conceived (47, 207, 253–255, 258, 259). Among abortion-seekers in New Zealand thought not to have missed any pills, 39% reported diarrhea and/or vomiting around the time of conception (207). Similarly, among Danish women experiencing pill failure who had taken all of their pills, 23% reported gastroenteritis around the time of conception (253).

Vomiting and diarrhea can interfere with absorption of both estrogen and progestin. Although the hormones in OCs are absorbed in the upper intestinal tract, the increased movement of the intestines during bouts of illness seems to reduce hormonal absorption (63). Many pill users, however, are not aware that vomiting and/or diarrhea may make the pill less effective (19, 47).

What Advice to Give?

No consensus exists on how to advise pill users. Some recommendations suggest added protection during these times, while others do not consider it necessary.

Among the advice that has been offered are the following:

- Pill users taking broad-spectrum antibiotics do not need to use a back-up method, since pharmacological studies do not show an increased risk of pill failure (84).
- Pill users can use an additional method of contraception if they want extra protection from pregnancy (7, 234, 241).
- Pill users can omit the seven-day hormone-free interval between pill packs while taking antibiotics (72).
- Long-term users of antibiotics can increase their contraceptive protection by switching to higher-dose pills, such as those containing 50 µg of ethinyl estradiol (72).
- Women with illnesses causing vomiting and/or diarrhea can use an additional method or abstain from sexual intercourse for 7 to 14 days after the illness (85, 120, 135, 194, 206).
- Women should take another pill if vomiting or diarrhea occurs within two hours after taking a pill. Two hours is sufficient time for the hormones in the pill to be absorbed and maintain contraceptive effectiveness (8).

Postabortion family planning. Fewer than one-third of women in Latin America, Africa, and Asia receiving care for postabortion complications have ever used a modern contraceptive (185). **Women experiencing spontaneous or induced abortion return to fertility almost immediately.** Therefore facilities treating women for postabortion complications should also offer family planning counseling and services.

Offering family planning as part of postabortion care can make a dramatic difference in contraceptive use. Many women being treated for postabortion complications want family planning. In Egypt, for example, 62% of postabortion patients decided to use a family planning method after counseling by a specially trained provider. Before family planning counseling was made a part of postabortion care, only 37% of patients decided to use family planning (98). Similarly, in Kenya before family planning counseling became part of postabortion care, only 7% of postabortion patients received contraceptive counseling, and only 3% obtained contraception. Afterwards, 68% of clients were counseled, and 48% received their chosen method (205).

Child health clinics. Offering family planning along with immunization and other child health care services can be simple and successful. For example, immunization clinic workers in Togo selected 1,000 women randomly while their children were being immunized and said just three sentences to each about the availability of family planning methods at the clinic and the health benefits of child spacing. Six months later the average number of new contraceptors per month at the clinic had increased by 54% (97, 196).

Good Logistics Management

An effective contraceptive distribution system is crucial to provide women with pills reliably and regularly (54). Pills are not fully accessible if they are in short supply or entirely out of stock. Lack of attention to logistics management can undercut all other efforts to improve supplies and services.

For example, in Uganda a program trained nurses to provide OCs, condoms, and *Depo-Provera* injectables in several communities. Within three months the number of new clients increased 84%. The contraceptive logistics system, however, did not keep up with the increase in family planning users, and supplies ran short in four of nine districts (114). If contraceptive supply remains irregular for long, clients lose confidence in a service provider. Clients are less likely to return for services when they presume that their chosen method will not be available (54, 131).

Family planning programs can use a variety of techniques to maintain a continuous supply of OCs. These include warehouse and distribution management, commodity forecasting, distribution resource planning, and logistics information technology. The essential element is to calculate the optimal number of supplies to order and thus reduce waste, operate more efficiently, and ensure access (54, 131). Stockouts of progestin-only pills at service delivery points in Malawi fell from nearly 80% in 1998 to 10% in 1999 after a field-level distribution and logistics information system was set up (54).

Toward More Effective Use

Over 100 million women throughout the world rely on oral contraceptives to meet their family planning needs. With adequate financial and policy support, family planning programs and providers can help women use the pill effectively by:

- **Increasing knowledge about the pill through mass-media messages and other communication channels.** As women learn more, they are better able to make informed decisions about their reproductive health, to choose a contraceptive method that suits their needs, and to use this method effectively and with satisfaction.
- **Improving the ability of providers to inform and counsel women about the pill.** When providers can communicate clearly how to use the pill—in particular, how to manage side effects and how to make up missed pills—clients use the pill better and longer.
- **Making OCs and other methods easily available.** The fewer barriers that women face to obtain the pill, both initially and for resupply, the better they can rely on the pill to prevent pregnancy.

Forty years after the introduction of the pill, family planning programs and providers have the knowledge, ability, and experience to help women use OCs effectively in order to achieve their family planning goals, improve their reproductive health, and reduce the number of unintended pregnancies. Helping women use the pill contributes to safety, effectiveness, and users' satisfaction, now and in the future.



This storeroom in Bolivia demonstrates effective supply management. A range of contraceptives is in stock and well labeled. Logistics management ensures that supplies are always available.

A new wall chart, "Do you know your family planning choices?" accompanies copies of this issue of **Population Reports** mailed to regular subscribers in developing countries. This new chart updates and replaces a similar chart first distributed in 1997. When requesting additional copies, please order the wall chart and this **Population Reports** issue separately.

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